OBITUARY

Prof. Ashutosh Mookherji :

Professor Ashutosh Mookherji, D. Sc., passed away on the 3rd October, 1969 at the age of 64 years, leaving behind his wife, one son and a daughter, many relatives, friends and students to mourn his untimely death. To the present writer the death has come as a great shock and sense of deepest personal loss, as Dr. Mookherji was not only a life long colleague of the writer in the field of Crystal Magnetism, but more than a staunch friend in adversity and prosperity.

Coming from a middle-class family of Paschimpara, Vikrampur, Dacca (now in East Pakistan) he graduated with Chemistry honours from the Daulatpur Hindu Academy and passed the M. Sc., examination in Physics of the Dacca University in 1931. Thereafter, he undertook research work in Crystal Magnetism, until 1933 at the Dacca University under late Professor K. S. Krishnan, then Reader in Physics at that University, and was associated with Dr. S. Banerjee (Recently retired from the Central Water and Power Station, Poona), N. C. Chakravorty (retired from Govt. of India, Ministry of Education Dr. B. C. Guha (retired from Education Service, Govt. of West Bengal) and the present writer, forming the first nucleus for the growth of the study of Crystal Magnetism in this country. When in 1933 Prof. Krishnan as the first Mahendralal Sircar Professor of Physics, joined the Indian Association for the Cultivation of Science at the "historic" 210, Bowbazar Street, Calcutta, already hallowed by the discovery of Raman Effect, a small batch of his students from Dacca, including Dr. Mookherji, Dr. Banerjee and the present writer accompanied him there and the nucleus grew up at last into a school of Magnetism, which carried out extensive and intensive investigations in the field of dia- and para-magnetism of single crystals, to win international fame in future years, with the help of the most simple and rudimentary, home-made equipments, housed in the old, dilapidated premier shrine of scientific learning in india. Amongst the foremost students of Krishnan Dr. S. Banerjee's name is associated with the pioneer magnetic anisotropy work on a large number of aromatic organic crystals and on the feebly anisotropic S-state ions of transition elements. On the orther hand, Dr. Mookherji initiated the pioneer work on a vast number of anisotropic salts of the iron group establishing Van Vleck's "Theory of Crystalline Electric Fields". on a firm experimental basis, and achieved the crowning success of his career by the first ever measurements of the anisotropy of rare earth salts, which property was admitted, for a long time to come, as a puzzle by even Prof. Van Vleck. As is well known, the rare-earth ions are chemically so very alike that it is a specialized job to separate them. On the other hand, their magnetic behaviours are very different and any small admixtures between them would totally vitiate the results. Moreover, only two or three laboratories in the world at that time (1933-38) were experimentally preparing spectroscopic quality of rare-earth oxides, so that these were practically unavailable to others. With the ideal of self-help learnt at the feet of the sage-scientist Prof. S. N. Bose (his professor at the Dacca University), Dr. Mookherji brushed up his knowledge of B. Sc. course of analytical chemistry and launched upon the ambitious task of purifying the rare-earth salts available in the market. Starting with only a gram or two each, of oxides of cerium, praseodymium, neodymium and samarium, all that the very limited means of the laboratory at that time could purchase, he made for the first time a complete study of the magnetic

anisotropy and susceptibility of ethylsulphates, sulphates, chlorides and nitrates of each of the said ions, recovering the material after each measurement, for the preparation of the next salt. At a later time, he was able to get small quantities of the spectroscopically pure samples as a gift from Prof. Trombe of Paris, which confirmed fully his earlier results. This achievement alone will show how painstaking, exact and meticulous experimenter he was. Before this work was complete he had to pass through many family vissicitudes and in 1938 had to join the Rangoon University as the Professor of Physics, where he miraculously escaped death during the bombing of Rangoon in 1941, and somehow returned to Calcutta, to be faced on arrival with a great family disaster. On rejoining the Association in 1941, he took up with calmess and for ttitude his original line of work and when in the middle of 1942 Prof. Krishnan left for Allahabad, he was put in sole charge of the Association Laboratories and Library, and with a small sincere band of colleagues, continued bravely to uphold his sacred trust in the face of bombing and imminent danger of aggression to Calcutta. When in 1943 Dr. K. Banerjee joined the Association as the M.L.S. Professor of Physics, Dr. Mookherji left for Pilani as the Professor of Physics, where again, as in Rangoon University, he built up the Physics Department virtually from scratch and also a research laboratory in Magnetism. All these ups and downs caused considerable delay in submitting his thesis but at last in 1947 he was awerded a well merited D. Sc. degree of the Dacca University, for his work of Paramagnetism of Crystals of iron and rare-earth group salts. It was perhaps destined that Dr. Mookherji could never settle down at one place. He had already migrated from Rangoon to this Association and from Association to Pilani but again he shifted from Pilani to Agra College in 1955 and from Agra finally to Burdwan in 1963. At each of the places he had made his name as a first rate organizer, teacher and research worker and held up before his students and admirers an ideal of simplicity, honesty, industry and gentlemanly behavior, at home and in the laboratory, and added to this a hearty and bluff attitude towards life. He started his research career as a research scholar of this Association from 1933-37, became later on a research fellow in 1941 on his return from Rangoon and was made successively the Assistant Secretary and a Research Assistant then the highest post in the Association after M.L.S. Professor. He was an ordinary member of this Association until his death, a member of the Council af the Association for a number of years, a member of the Board of Editorial Collaborators of Indian Journal of Physics and had the best interest of the Association always foremost in his heart.

Ashutosh was, as his name in Bengali implies, soon pleased with very little and though could never tolerate evil, could be appeased easily with a little effort. It was hoped that with his apparently vigorous health he would continue for quite a number of years to inspire his students and collaborators to achieve a lasting fame for the Dept. of Physics, Burdwan University. But, an insidious lurking disease has suddenly robbed us of a friend and the country of a true physicist. We pray to God for the eternal peace of his soul and for consolation to his bereaved relatives and friends.

A. Bose

OBITUARY

Prof. C. S. Ghosh.

Chandra Sekhar Ghosh graduated with honours in Physics in 1928 and obtained a first class M.Sc. degree in Applied Physics from the University of Calcutta in 1930 standing second in order of merit. He was awarded Sir Rashbehari Scholarship and in 1934 he joined the University of Calcutta as an Assistant Lecturer. After serving the University for a number of years he went to the United States of America and joined the Massachusetts Institute of Technology and obtained from there his Master's degree in Electrical Engineering. He then joined the Indian Institute of Science, Bangalore, as a Professor and later became Professor and Head of the Department of Electrical Engineering at Roorkee University. He also acted as its Vice-Chancellor for sometime before his reterement in 1968. During this period he had won a good name as a teacher and an administrator. After his retirement he came back to Calcutta and joined the University Department of Applied Physics as a retired scientist; but unfortunately within a very short time—on the 19th December, 1968, a sudden heart-stroke cut short his valuable life. Professor Ghosh was connected with many institutions and learned societies of this country and abroad. He was a member of the Indian of Association for the Cultivation of Science also member of its Council for some time a Fellow of the National Institute of Sciences of India and a Senior Member of the Institute of Electrical and Electronics Engineers, New York. For a number of years he acted as the Outstation-Secretary of the Indian Science Congress Association and was also the Editor-in-Chief *of Everyman's Science*, a quarterly journal published by this Association. He was a member of the Board of Collaborators of the Indian Journal Physics. A man of hearty and jovial temperament, he was liked by all who came in contact with him, and his loss therefore was felt by a large number of friends and admirers throughout the country.

(G. N. Bhattacharya)